

24 MAR 2004

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 29 JUN 2004

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Applicant's or agent's file reference 00020.04i	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).	
International Application No. PCT/AU2003/001264	International Filing Date (day/month/year) 25 September 2003	Priority Date (day/month/year) 25 September 2002
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ E03B 3/28, B01D 5/00		
Applicant BOYLE, Peter Hamilton		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 12 sheet(s).

3. This report contains indications relating to the following items:
 - I ☒ Basis of the report
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 10 June 2004	Date of completion of the report 22 June 2004
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer JOHN DEUIS Telephone No. (02) 6283 2146

I. Basis of the report**1. With regard to the elements of the international application:***

- ☐ the international application as originally filed.
- ☒ the description, pages 1-17 as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☒ the claims, pages , as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
pages 18-23 received on 10 June 2004 with the letter of 10 June 2004 .
- ☒ the drawings, pages , as originally filed,
pages , filed with the demand,
pages 1/6-6/6 received on 15 December 2003 with the letter of 15 December 2003
- ☐ the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims 1-26	YES
	Claims	NO
Inventive step (IS)	Claims 1-26	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-26	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

None of the individual citations disclose all the essential features as claimed. Claims 1-26 are novel and involve an inventive step.

The invention is directed to an apparatus for collecting moisture from the atmosphere whereby atmospheric air is drawn through an enclosed space and moisture condenses on a plurality of downwardly angled condenser members.

The closest art found was:

D1: DE 3431186 A (ZACHERL) 6 March 1986

D2: Derwent Abstract Accession No. 89-369200/50, Class Q42,

SU 1484886 A (CORRESP POLY) 7 July 1989

CLAIMS

1. An apparatus for collecting water from the atmosphere, said apparatus including:

a body defining an enclosed space;

5 a plurality of downwardly angled condenser members within said enclosed space upon which moisture can condense, said enclosed space communicating with said atmosphere;

a circulation means for circulating cold air exterior and/or interior to said apparatus, said circulation means including an air-conditioning unit; and

10 a collection means for collecting thus condensed said moisture.

2. An apparatus as defined in Claim 1 wherein said cold air is provided through a closed circuit system.

3. An apparatus as defined in Claim 2 wherein said closed circuit system includes air ducts.

4. An apparatus as defined in Claim 3 wherein said air ducts include a heat exchange means.

5. An apparatus as defined in Claim 4 wherein said heat exchange means includes fins.

6. An apparatus as defined in any one of Claims 1 to 5 wherein said circulation means is powered directly or indirectly by solar cells.
7. An apparatus as defined in any one of Claims 1 to 5 wherein said circulation means is powered by mains power.
- 5 8. An apparatus as defined in Claim 1 which further includes a flow means for increasing flow of air from said atmosphere through said enclosed space, said flow means including a pressure means to alter pressure within said apparatus to increase said flow of air.
- 10 9. An apparatus as defined in Claim 8 wherein said pressure means includes a venturi.
10. An apparatus as defined in Claim 8 or Claim 9 wherein said body is of a substantially inclined configuration when said apparatus is in use.
11. An apparatus as defined in any one of Claims 1 to 10 wherein said condenser members are arranged in rows.
- 15 12. An apparatus as defined in Claim 11 wherein said condenser members in one of said rows are arranged in an opposite inclination to the condenser members in another adjacent row of said rows, the space between said one row and said adjacent row defining a passage through which said thus condensed said moisture can flow.
- 20 13. An apparatus as defined in Claim 11 or Claim 12 wherein said rows are concentric.

14. An apparatus for collecting water from the atmosphere, said apparatus including:

a body defining an enclosed space;

a plurality of downwardly angled condenser members within said enclosed space upon which moisture can condense, said enclosed space communicating with said atmosphere; and

collection means for collecting thus condensed said moisture;

characterised in that each of said condenser members is of a conical configuration.

15. An apparatus for collecting water from the atmosphere, said apparatus including:

a body defining an enclosed space;

a plurality of downwardly angled condenser members within said enclosed space upon which moisture can condense, said enclosed space communicating with said atmosphere; and

collection means for collecting thus condensed said moisture;

characterised in that each of said condenser members is of a frusto-conical configuration.

16. An apparatus for collecting water from the atmosphere, said apparatus including:

a body defining an enclosed space;

a plurality of downwardly angled condenser members within said enclosed space upon which moisture can condense, said enclosed space communicating with said atmosphere; and

collection means for collecting thus condensed said moisture;

characterised in that each of said condenser members is of circular cross-section.

17. An apparatus as defined in any one of Claims 14 to 16 wherein said condenser members are supported at spaced apart positions along respective central support members.

18. An apparatus as defined in Claim 17 wherein each of said support members is hollow to define a flow passage through which said condensed moisture can pass for subsequent collection.

19. An apparatus as defined in any one of Claims 14 to 18 wherein each of said condenser members are downwardly angled 45 degrees.

20. An apparatus for collecting water from the atmosphere, said apparatus including:

an elongated chamber defining an enclosed space, said elongated chamber being inclined to the horizontal when said apparatus is in use;

cooling means to cool said chamber;

a plurality of condenser members upon which moisture can condense within said enclosed space;

an air inlet and an air outlet communicating said chamber with said atmosphere; and

collection means at one end of said chamber for collecting condensed said moisture.

21. An apparatus as defined in Claim 20 wherein cooling means are also provided to cool said condenser members.

22. An apparatus as defined in Claim 20 or Claim 21 wherein each said cooling means include cold air tubes within said chamber.

23. An apparatus as defined in Claim 22 wherein said cold air tubes are located adjacent to said condenser members.

24. An apparatus as defined in Claim 22 or Claim 23 wherein cold air is supplied to said cold air tubes by an air-conditioning unit.

25. An apparatus as defined in Claim 24 wherein said cold air is provided through a closed circuit system.
26. An apparatus as defined in any one of Claims 1 to 25 wherein said condenser members are coated with zircon, zeolite or a similar hydrophilic material.

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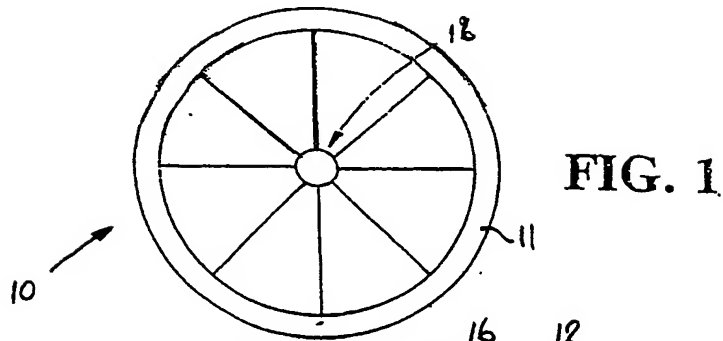


FIG. 1

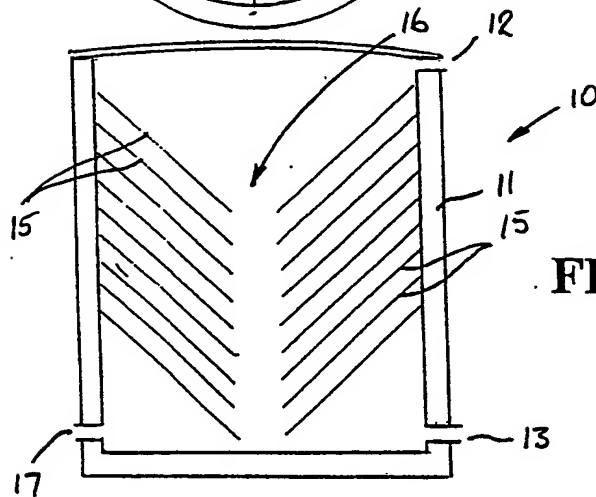


FIG. 2

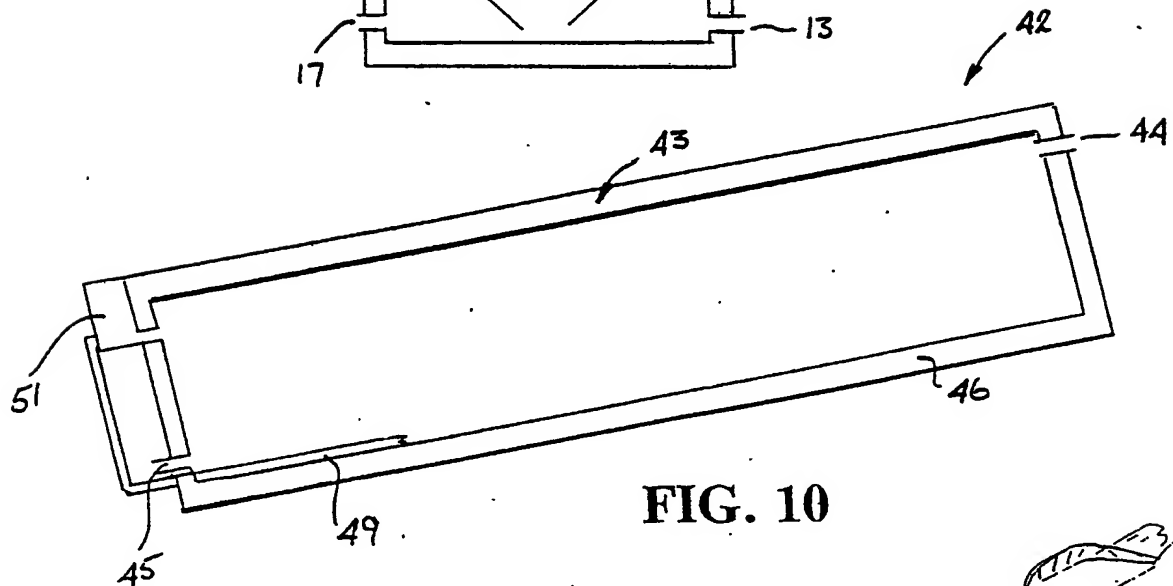


FIG. 10

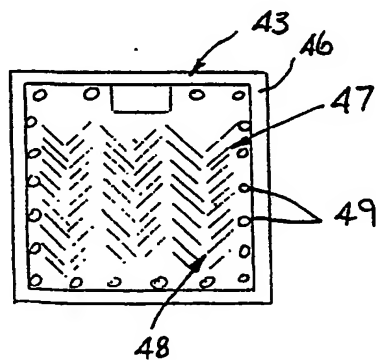


FIG. 11

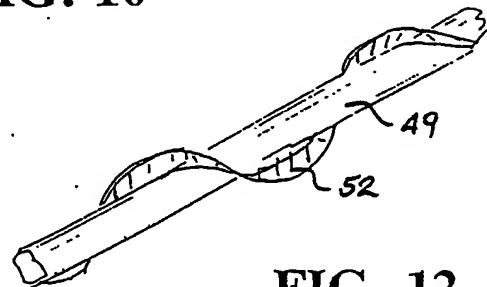


FIG. 12

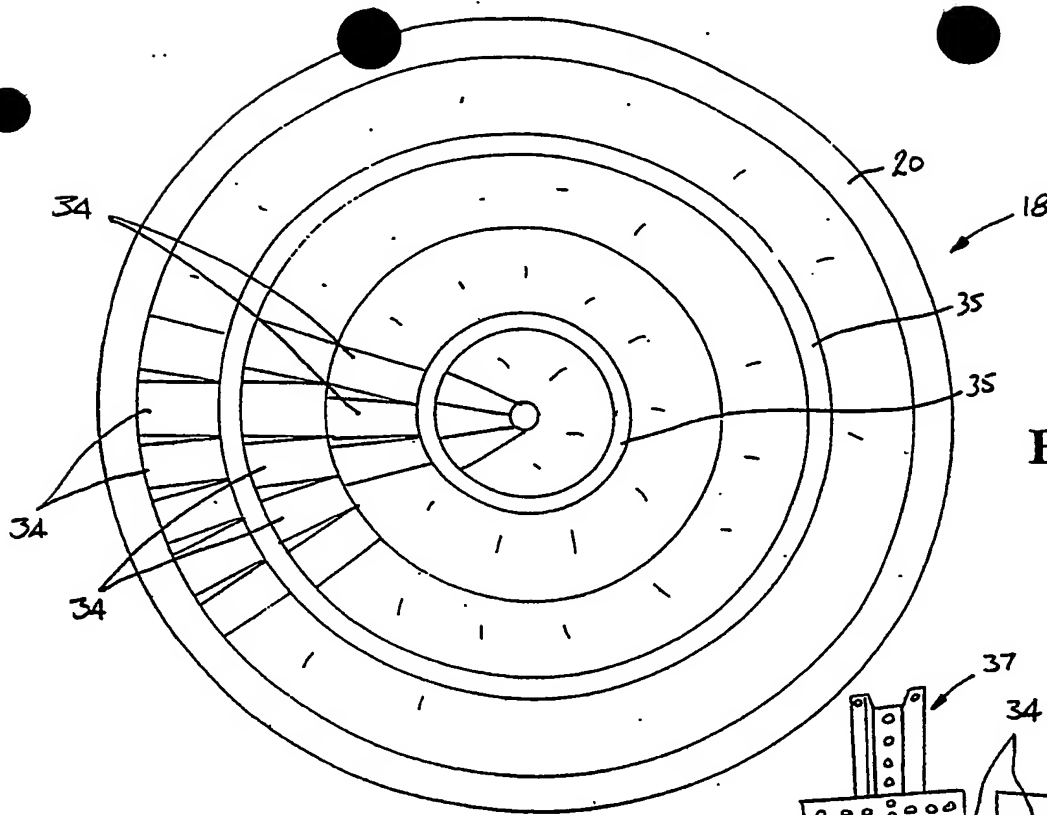


FIG. 4

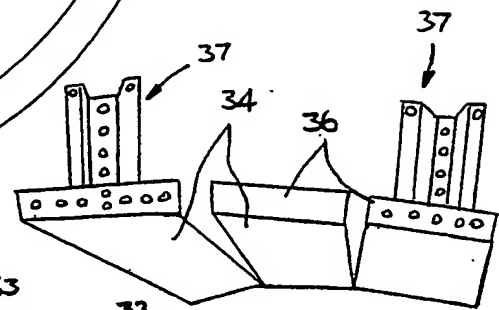


FIG. 5

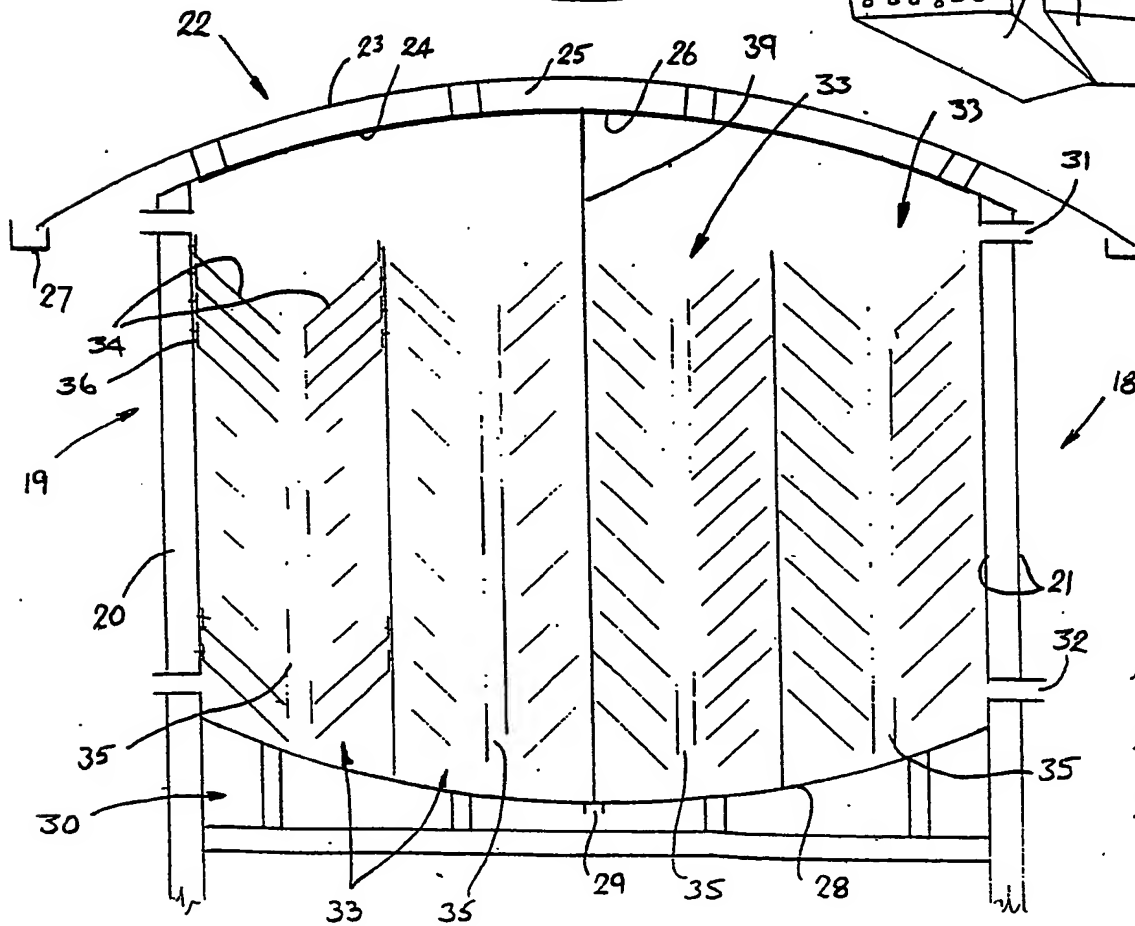


FIG. 3

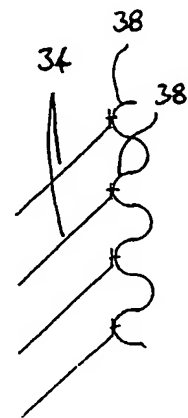


FIG. 6

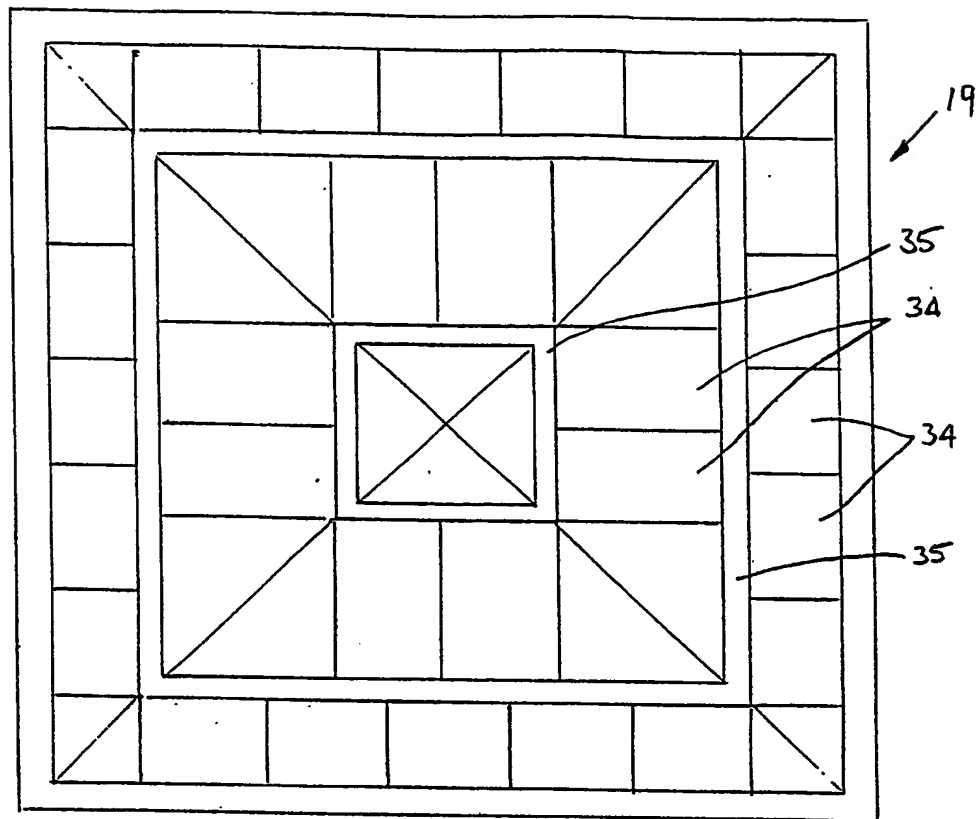


FIG. 7

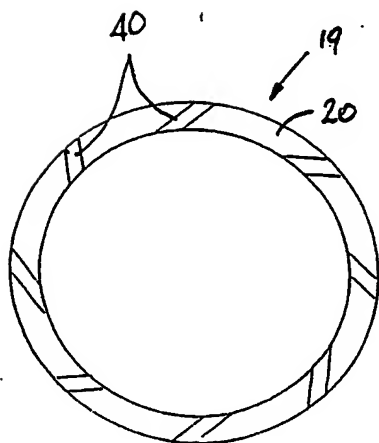


FIG. 8

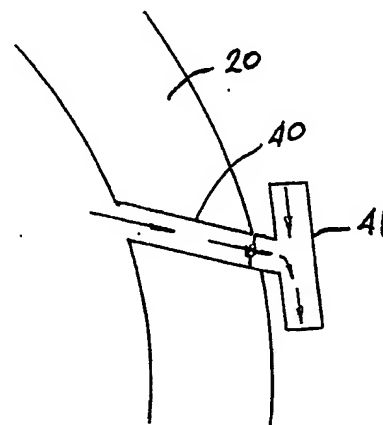


FIG. 9

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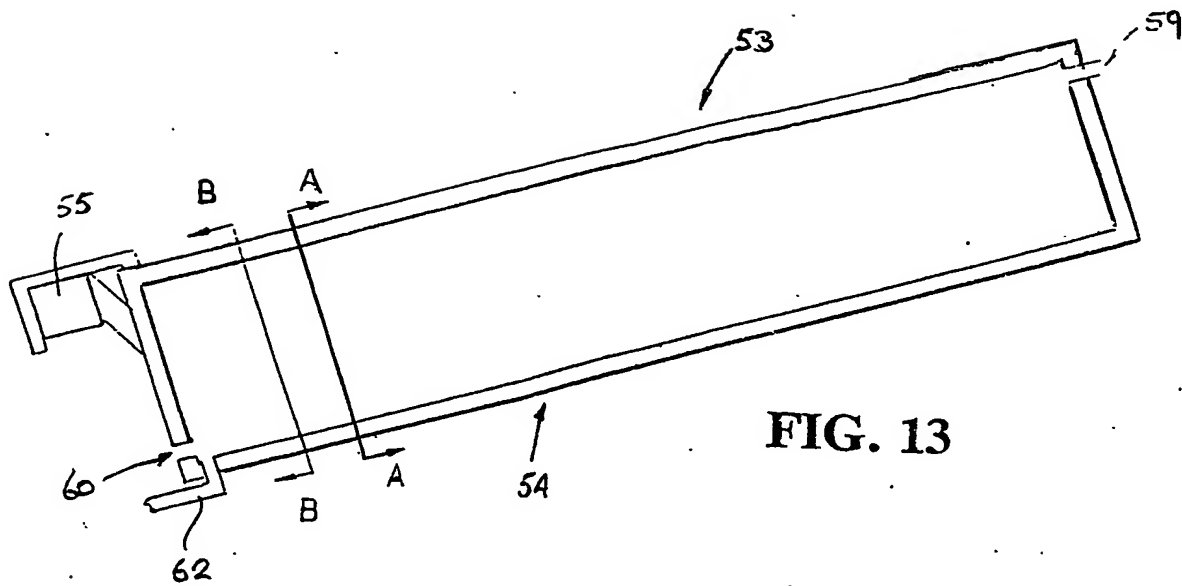


FIG. 13

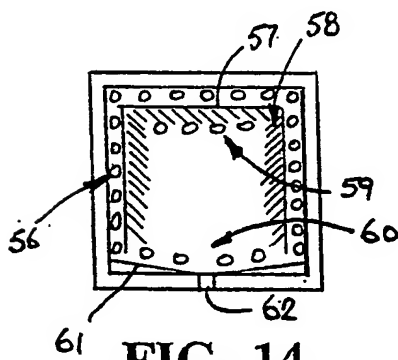


FIG. 14

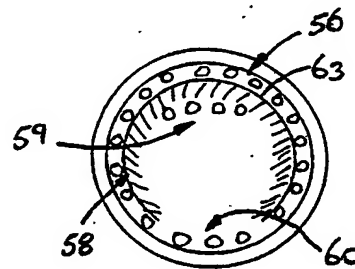


FIG. 15

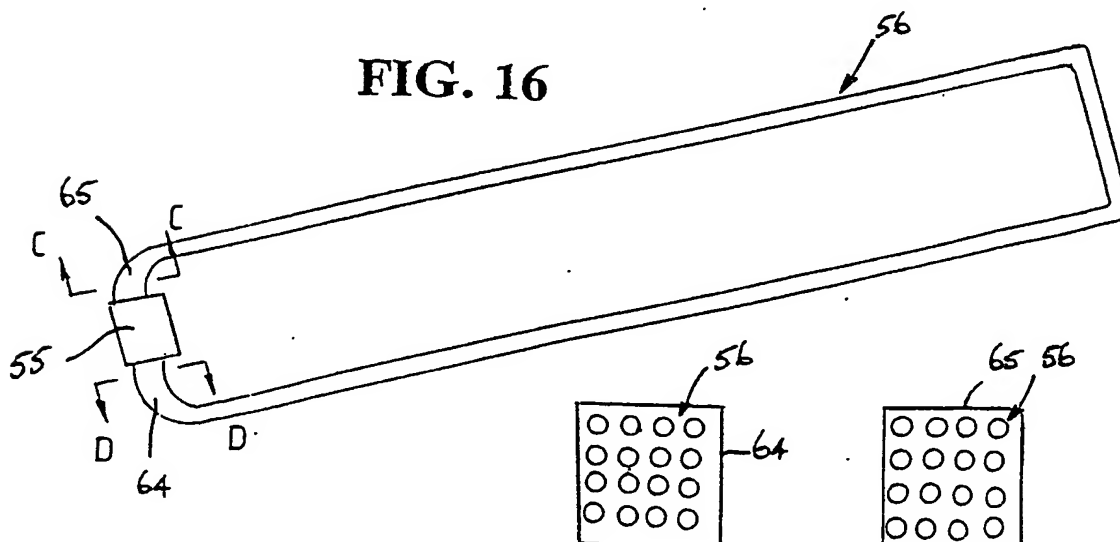


FIG. 16

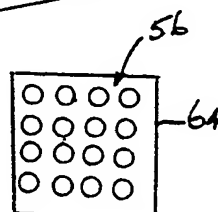


FIG. 17

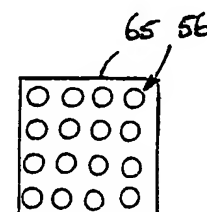


FIG. 18

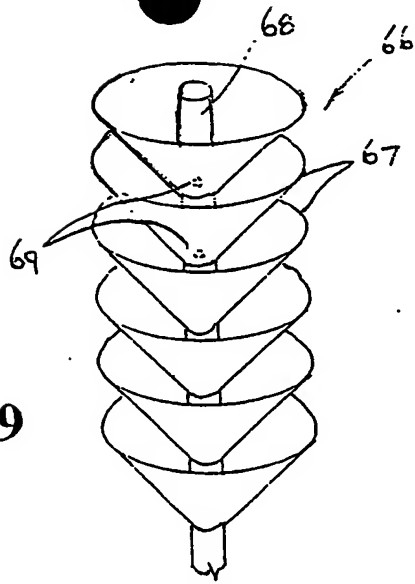


FIG. 19

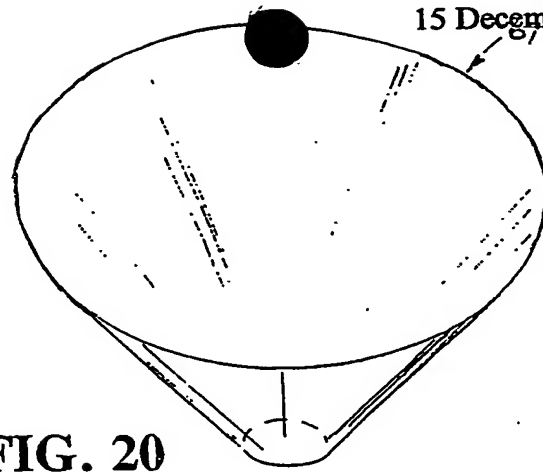


FIG. 20

FIG. 21

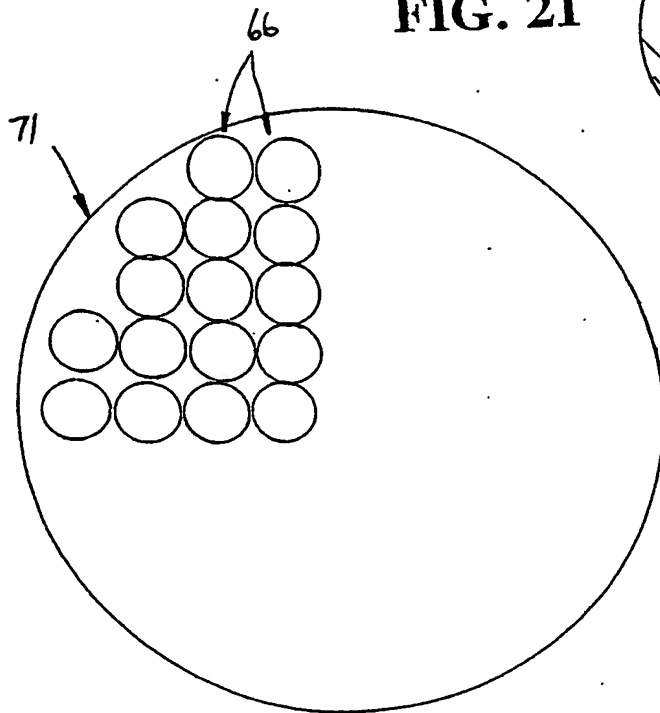


FIG. 23

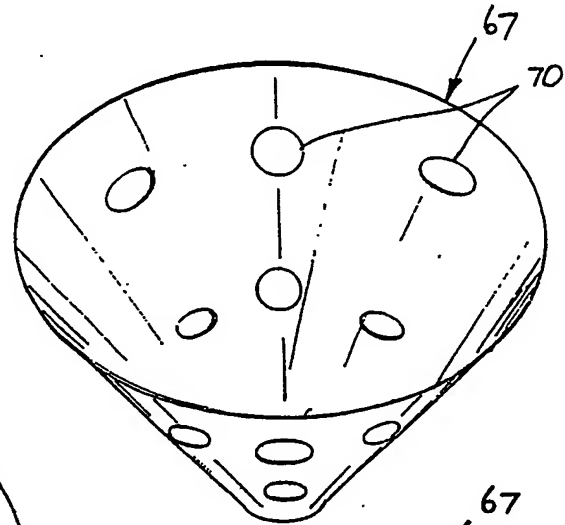


FIG. 22

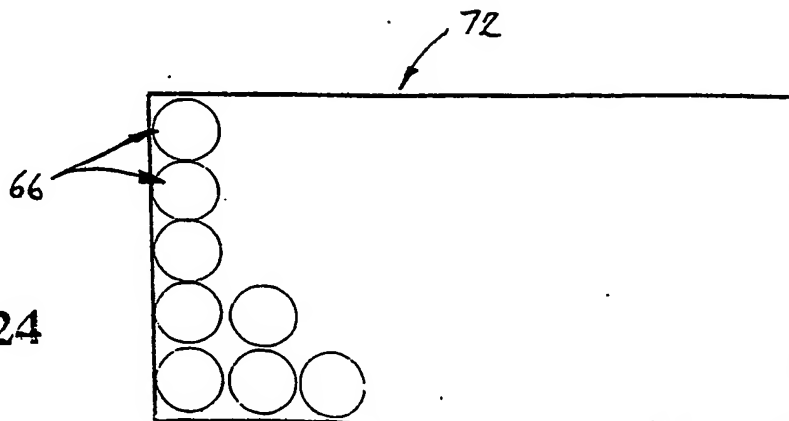
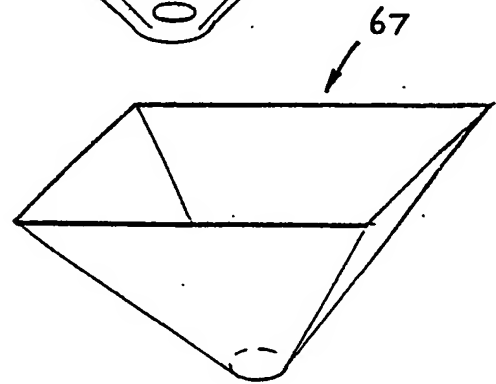


FIG. 24

FIG. 25

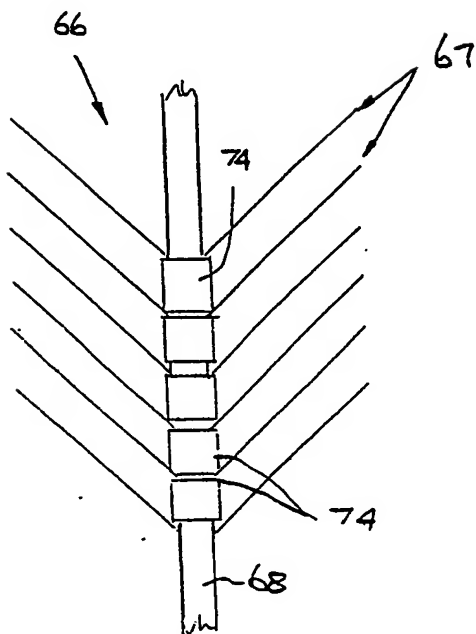
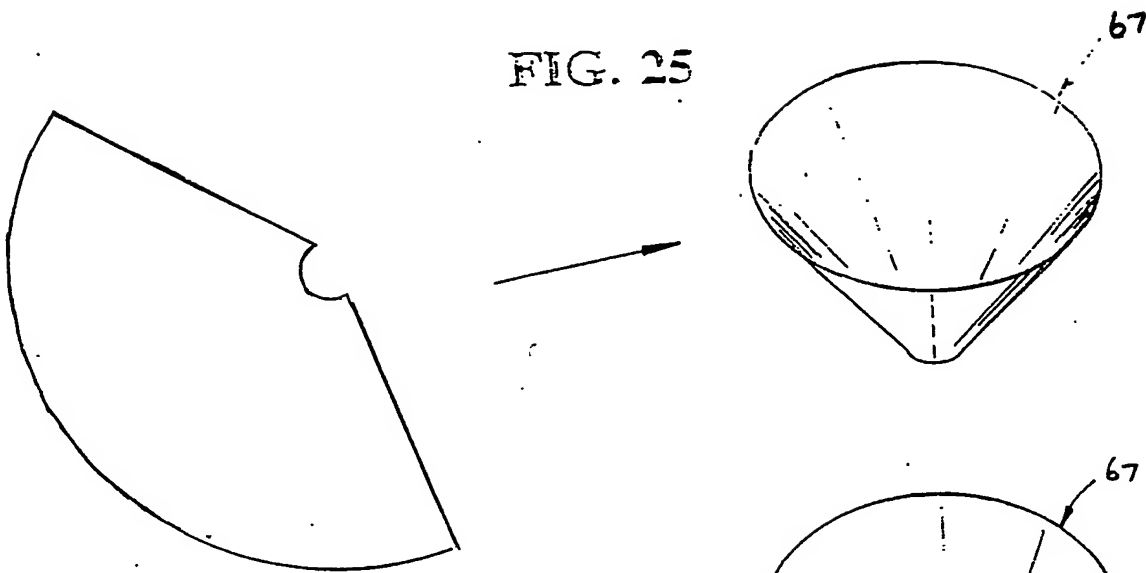


FIG. 27

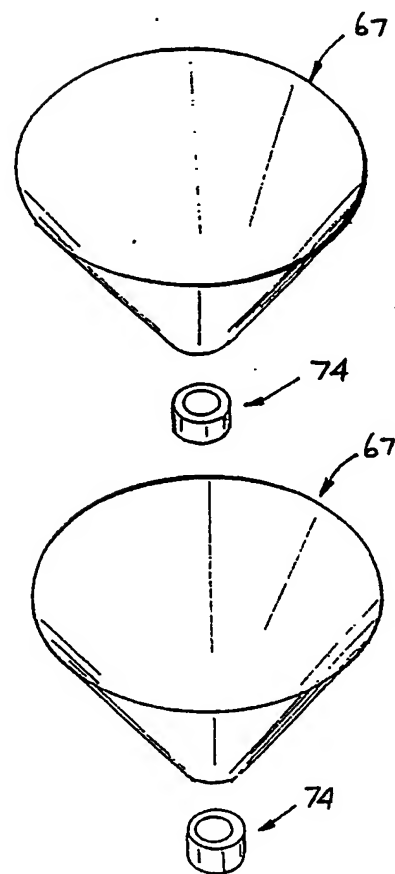
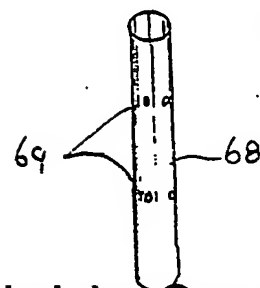


FIG. 26



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